

IFN146

DUAL N-CHANNEL SILICON JUNCTION FIELD-EFFECT TRANSISTOR

- **LOW NOISE AUDIO AMPLIFIER**
- **Equivalent to Japanese 2SK146**

Absolute maximum ratings at $T_A = 25^\circ\text{C}$

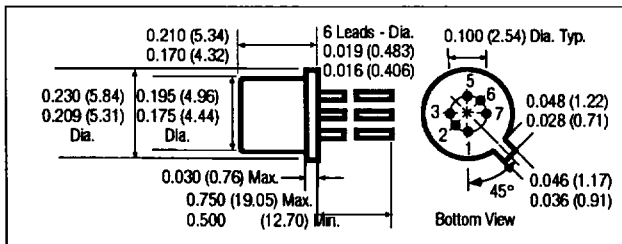
Reverse Gate Source & Reverse Gate Drain Voltage	- 40 V
Continuous Forward Gate Current	10 mA
Continuous Device Power Dissipation	375 mW
Power Derating	3 mW/ $^\circ\text{C}$
Storage Temperature Range	-65 $^\circ\text{C}$ to 200 $^\circ\text{C}$

At 25 $^\circ\text{C}$ free air temperature:
Static Electrical Characteristics

		IFN146			Unit	Process NJ450	
		Min	Typ	Max		Test Conditions	
Gate Source Breakdown Voltage	$V_{(BR)GSS}$	- 40			V	$I_G = -1 \mu\text{A}$, $V_{DS} = 0 \text{ V}$	
Gate Reverse Current	I_{GSS}			- 1	nA	$V_{GS} = -30 \text{ V}$, $V_{DS} = 0 \text{ V}$	
				- 1	μA	$V_{GS} = -30 \text{ V}$, $V_{DS} = 0 \text{ V}$	$T_A = 150^\circ\text{C}$
Gate Source Cutoff Voltage	$V_{GS(OFF)}$	- 0.3		- 1.2	V	$V_{DS} = 10 \text{ V}$, $I_D = 1 \mu\text{A}$	
Drain Saturation Current (Pulsed)	I_{DSS}			30	mA	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0 \text{ V}$	

Dynamic Electrical Characteristics

Common Source Forward Transconductance	g_{fs}	30	40		mS	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0 \text{ V}$ $I_{DSS} = 5 \text{ mA}$	$f = 1 \text{ kHz}$
Common Source Input Capacitance	C_{iss}			75	pF	$V_{DS} = 10 \text{ V}$, $V_{GS} = 0 \text{ V}$	$f = 1 \text{ kHz}$
Common Source Reverse Transfer Capacitance	C_{rss}			15	pF	$V_{DS} = 10 \text{ V}$, $I_D = 0 \text{ A}$	$f = 1 \text{ kHz}$
Noise Figure	NF		1		dB	$V_{DS} = 10 \text{ V}$, $I_D = 5 \text{ mA}$ $R_G = 100 \Omega$	$f = 1 \text{ kHz}$
Differential Gate Source Voltage	$ V_{GS1} - V_{GS2} $			20	mV	$V_{DS} = 10$, $I_D = 5 \text{ mA}$	

**T0-71 Package**

Dimensions in Inches (mm)

Pin Configuration

1 Source, 2 Gate, 3 Drain,
5 Source, 6 Gate, 7 Drain